



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/923,625	08/07/2001	Chad A. Mirkin	00-713-B1	2286

7590 06/11/2003

Emily Miao  
McDonnell Boehnen Hulbert & Berghoff  
32nd Floor  
300 S. Wacker Drive  
Chicago, IL 60606

EXAMINER

RILEY, JEZIA

ART UNIT	PAPER NUMBER
----------	--------------

1637

DATE MAILED: 06/11/2003

127

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Applicati n N .

09/923,625

Applicant(s)

MIRKIN ET AL.

Examin r

Jezia Riley

Art Unit

1637

-- The MAILING DATE of this c mmunication appears on the cover sheet with the corresp ndenc address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 05 May 2003 .
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 2-24, 29-32, 42, 43 and 106-120 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 2-24 and 29-32 is/are allowed.
- 6) ☒ Claim(s) 42, 43 and 107-119 is/are rejected.
- 7) ☒ Claim(s) 106 and 120 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_ .
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 12 .
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_ .
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_ .

Art Unit: 1637

## **DETAILED ACTION**

### ***Response to Remarks***

1. Applicants' arguments and amendments, filed on 5/5/03, have been approved and entered. Rejections and/or objections not reiterated from previous office actions are hereby withdrawn. The following rejections and/or objections are either newly applied or reiterated. They constitute the complete set presently being applied to the instant application.

### ***Claim Objections***

2. The numbering of claims is not in accordance with 37 CFR 1.126 which requires the original numbering of the claims to be preserved throughout the prosecution. When claims are canceled, the remaining claims must not be renumbered. When new claims are presented, they must be numbered consecutively beginning with the number next following the highest numbered claims previously presented (whether entered or not).

Misnumbered claims 112-121 have been renumbered 111-120.

### ***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was

not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

4. Claims 42, 43, 107-119 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yguerabide et al. (6,214,560) in view of Nelson et al. (5,942,610).

Yguerabide discloses an analyte assay using metal particles for specific detection of one or more analytes in a sample as discussed in the previous office action. Yguerabide et al. has determined by methods of theoretical modeling and physical experimentation, that coated metal-like particles have similar light scattering properties as compared to uncoated metal-like particles, both of which have superior light scattering properties as compared to non-metal-like particles. By "metal-like" particles is meant any particle or particle-like substance that is composed of metal, metal compounds, metal oxides, semiconductor(SC), superconductor, or a particle that is composed of a mixed composition containing at least 0.1% by weight of metal, metal compound, metal oxide, semiconductor, or superconductor material. By "coated" particle is meant a particle has on its surface a layer of additional material. The layer is there to chemically stabilize the particle in different sample environments, and/or to bind specific analytes by molecular recognition means. Such coatings are for example, inorganic and/organic compounds, polymers, proteins, peptides, hormones, antibodies, nucleic acids, receptors, and the like.

Nelson et al. discloses methods to covalently attach labels and reporter molecules to oligonucleotides. Labels which can be directly incorporated using the procedures and methods of the subject invention include, but are not limited to, are reporter molecules such as biotin, acridine, haptens, and fluorophores. Which is viewed to be inclusive of the acceptor or donor fluorophores of the instant invention.

Therefore it would have been obvious at the time the invention was to use fluorophore labels as taught by Nelson for the method of Yguerabide the motivation is the reagents and methods of Nelson can be used to introduce functional groups and labels at multiple sites of a nucleotide during oligonucleotide synthesis. Such modified and labeled oligonucleotide probes can be used in any application where the said probe hybridizes to complementary sequences of a target polynucleotide. Further, primers made from the reagents can be used in the polymerase chain reaction (PCR) to amplify the target gene segment and then employing them for detecting the presence of specific polynucleotide in samples containing the same, biological samples, and, for example, clinical samples such as serum and blood. Still further, they can be used for the diagnosis of infectious diseases and pathogens, detection of oncogenes, diagnosis of genetic disorders, and detection of point mutations or single base substitutions. They have utility in the areas of anti-sense molecular biology, electron microscopy, X-ray crystallography, and site-specific cleavage of DNA. Also, another important embodiment of involves DNA sequencing using procedures well known to those skilled in the art. (Nelson Col. 5).

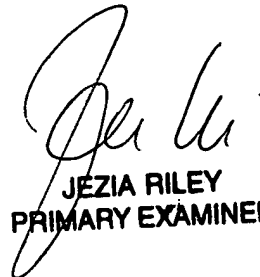
Art Unit: 1637

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jezia Riley whose telephone number is 703-305-6855. The examiner can normally be reached on 9:30AM - 5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gary Benzion can be reached on 703-308-1119. The fax phone numbers for the organization where this application or proceeding is assigned are 703-305-3014 for regular communications and 703-308-4242 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0196.

June 10, 2003

  
JEZIA RILEY  
PRIMARY EXAMINER